Medical Library
NOV 24 1943

The American Journal of Medical Technology

NOVEMBER, 1943

Vol. 9, No. 6

OFFICIAL PUBLICATION
(Copyright 1943)
AMERICAN SOCIETY OF MEDICAL TECHNOLOGISTS
Yearly Subscription, U. S. and Canada, $2.50 (Foreign, $3.00); Single Copy, 50c
Published Bi-Monthly by The Wines Printing Co., 4310 West Fort St., Detroit, Mich.
Editorial and Business Office, 4310 West Fort Street, Detroit, Mich.

DIFCO

Reagents

FOR SEROLOGIC DETECTION

of Syphilis

This group of Bacto reagents is prepared expressly for use in the serologic diagnosis of syphilis by means of the more generally employed complement-fixation, precipitation and flocculation tests. All Bacto antigens are tested for sensitivity and specificity in laboratories designated for that purpose by the author serologists of the tests for which they are specified. No antigen is released for distribution until it has been approved.

Bacto-Kolmer Antigen.....for the Kolmer modification of the complement-fixation test.

Bacto-Kolmer Antigen (New).....a more sensitive antigen for the Kolmer procedure.

Bacto-Kahn Standard Antigen.....for routine procedures of the Kahn test.

Bacto-Kahn Sensitized Antigen.....for the presumptive procedures of the Kahn system.

Bacot-Eagle Wassermann Anitgen..for the Eagle modification of the Wassermann test.

Bacto-Eagle Flocculation Anitgen..for the Eagle flocculation test.

Bacto-Hinton Indicator.....for the Hinton glycerol-cholesterol reaction.

Bacto-Antisheep Hemolysin.....a stable antisheep rabbit serum of high titer.

Bacto-Beef Heart (for Antigens)....for preparation of all beef heart antigens, except those used in the Kahn tests.

Bacto-Kahn Beef Heart.....used expressly for preparation of Kahn antigens.

Bacto-Cholesterol.....an excellent sensitizing reagent for antigens.

Bacto-Corn Germ Sterol.....for use in reinforcing the antigen used in the Eagle flocculation test.

Specify "DIFCO"
THE TRADE NAME OF THE PIONEERS
In the Research and Development of Bacto-Peptone and Dehydrated Culture Media

DIFCO LABORATORIES
INCORPORATED
DETROIT. MICHIGAN

The
AMERICAN JOURNAL
of
MEDICAL TECHNOLOGY

VOLUME 9 NOVEMBER, 1943 NUMBER 6

PERNICIOUS ANEMIA*

By STEVEN O. SCHWARTZ, M.D.
Cook County Hospital, Chicago, Ill.

For our discussion of Pernicious Anemia we have chosen the objective manifestations which reveal themselves to those concerned with the laboratory aspects of diseases. Pernicious anemia is a not uncommon disease, usually met with in people about middle age or over, but occuring not infrequently in young adults as well. Certain physical characteristics are commonly associated with the disease, but in large series probably more exceptions than typical cases are found.

Fundamentally, pernicious anemia is the result of the inability of the body to elaborate a substance which is known as the "liver extract principle." The "liver extract principle" is produced by the inter-action of certain food substances with certain secretions from the stomach, known as "extrinsic" and "intrinsic" factors respectively. When the "liver extract principle" is absent or is present only in significantly diminished amounts, one of the effects is the

---

* *Read before the joint conference of Medical Technologists and Clinical Laboratory Technicians, May 6, 1943.*

Aided by a grant from The Wilson Laboratories, Chicago, Illinois.
From the Hematological Laboratory, Cook County Hospital, Chicago, Illinois.

inability of cells to reach full maturation. Because of this impaired maturation, the term "maturation arrest" is frequently used descriptively in speaking of the cells in the pernicious anemia marrow. When maturation becomes arrested, the marrow becomes filled with cells, resuming the hyper-plastic appearance it had during early development. In the severe cases red marrow replaces all other, and reverts in appearance to that seen in the embryo. With this arrested maturation there develops an anemia characterized by the presence of macrocytes. This macrocytosis is probably a compensatory phenomenon and is brought about by an attempt to pack as much of the vital hemoglobin into each cell as possible. As the anemia increases, bizarrely shaped and heterogeneously sized cells make their appearance.

In the normal blood the cells are uniform in size and staining quality, are round, and for the most part have light central areas because the cells are bi-concave discs (Fig. 1). Early in the course of pernicious anemia the red cells are large, appear to have more hemoglobin, and show much more variation in size than would be expected normally (Fig. 2). As the disease progresses, the deviation from the normal becomes greater, the cells are no longer round but tend to be oval, some cells are very large, while others very small, and many bizarre shapes of various kinds are to be seen (Fig. 3). The *Price-Jones curve* which represents actual cell measurements plotted on a curve, brings out this remarkable phenomenon of anisocytosis and macrocytosis very clearly (Fig. 4). The normal red cell diameters (thin lines) fall within a relatively narrow range and are distributed quite evenly so that approximately ⅓ of the cells are less than, ⅓ more than, and ⅓ almost exactly 7½ micra. In pernicious anemia (heavy line) we note a preponderance of cells between 8 and 10 micra in diameter with some even larger, and on the other hand, many cells are very small and range down to 4 micra or less. This contrasts with the picture if iron deficiency anemia, in which the cells are small, thin, and hypo-chromic, but also show some anisocytosis and poikilocytosis (Fig. 5). One other condition which may prove somewhat confusing is a congenital, familial abnormality known as ovalocytosis (Fig. 6). The reason for the possible confusion is that the cells here, too, are oval, and may appear quite hyper-chromic. But here macrocytosis is absent and

the elongation of the cells is much more marked than in pernicious anemia.

The characteristic response of pernicious anemia to treatment is interesting since it follows a very distinct pattern. This is best seen in the response of the red cells and reticulocytes to therapy. The red cells begin to increase about three days after treatment is begun, and progressively rise to normal in eight weeks, regardless of the initial red blood cell count (Fig. 7). This means that the lower the original count the more rapid will be the daily rise since the normal has to be reached from a lower level. The reticulocyte response also follows a very definite pattern. On adequate liver therapy the rise begins on about the third day and reaches a peak between the fifth and seventh days. From here it falls rather precipitously back to normal. The height of the reticulocyte rise depends on the original red cell level, and bears a reciprocal relation to it. At a 1,000,000 level a reticulocyte peak of 40% may be anticipated, at 2,000,000 approximately 20%, and at 3,000,000 about 10%. The practical value of being aware of this phenomenon is that unless counts are taken at frequent intervals, especially between the fifth and seventh days, the reticulocyte peak will be missed, and where the diagnosis awaits therapeutic response this important piece of evidence may be lost.

There are two additional findings of importance which the laboratory may offer towards the substantiation of the diagnosis of pernicious anemia. The first is the absence of free hydrochloric acid from the stomach contents even following the stimulation of the gastric glands by the administration of histamine, and the other is the evidence of increased pigment metabolism. The two simplest methods for demonstrating the latter are the determination of the icterus index of the blood (whose value depends on the presence of increased amounts of bilirubin in the serum) and the urobilinogen in the urine.

It is almost superfluous to add that many interesting aspects of pernicious anemia have not been touched upon here, but it is hoped that in this limited space at least some of the highlights have been covered and some of the more important points have been sufficiently clarified to make the next case of pernicious anemia a little more interesting.

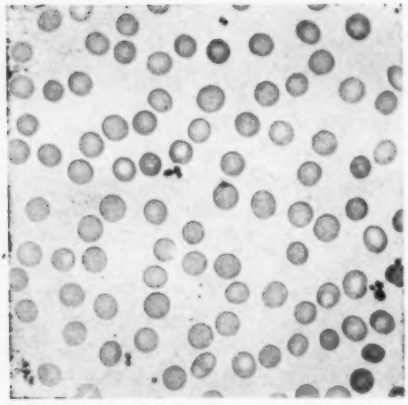

Figure 1

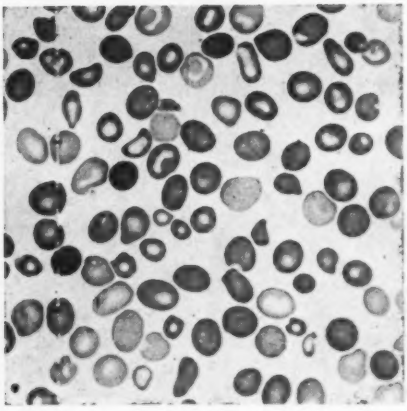

Figure 2

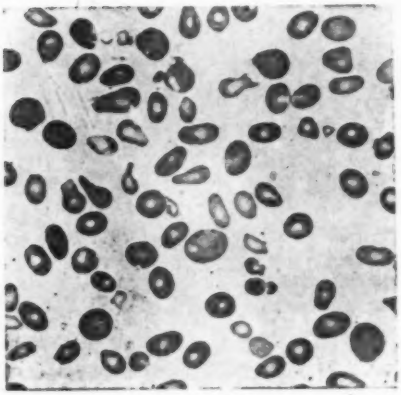

Figure 3

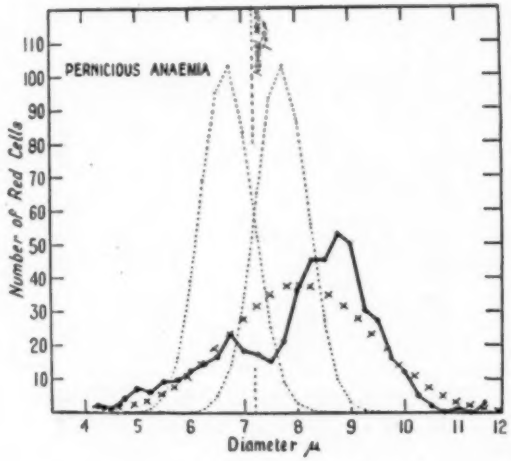

Figure 4

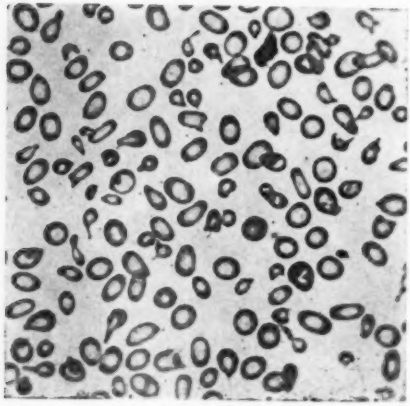

Figure 5

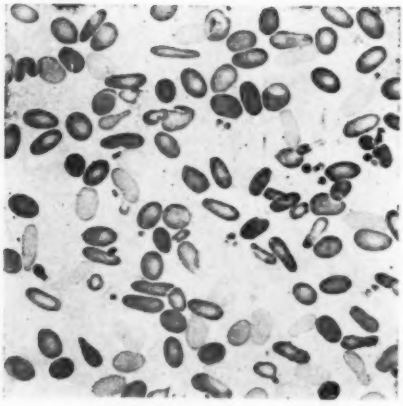

Figure 6

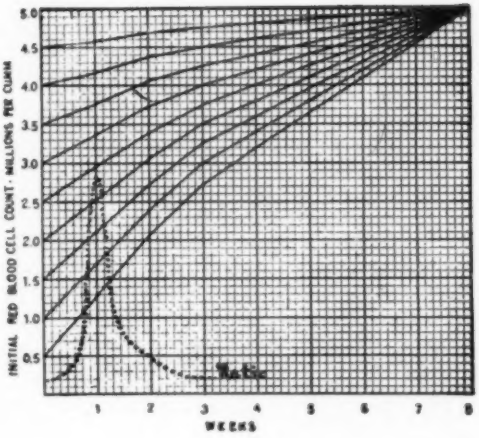
INITIAL RED BLOOD CELL COUNT - MILLIONS PER CUMM
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
1
2
3
4
5
6
7
8
WEEKS

Figure 7

IMPROVEMENTS IN LABORATORY STAINS

By JOHN FRAZER, M.T. (A.S.C.P.)

From the Laboratory of the Vicksburg Infirmary, Vicksburg, Miss.

The stains used in the laboratory have improved considerably in the past few years. The Medical Technologists have read of the reports issued by the Commission on Standardization of Biological Stains headed by Dr. H. J. Conn. The purity of stains has become increasingly more constant. Crystal Violet has been adopted in place of the older name of Gentian Violet, since the well known Gentian Violet had traces of other staining agents in it. This work merits the attention of all Medical Technologists. Also, the advances made in the preparation of stains should be known to all technicians, with especial attention given to the more stable better staining formulas made with glycerin.

Huntoon (1) published a paper on the use of glycerin as an adjuvant to bacterial dyes. This original paper should be read by all technicians making their own stain. This paper states that "This substance in the proper strength acts, first, as a preservative in helping to keep the dye stuffs in solution, second, apparently as a mordant in increasing staining values, and third, aids by clearing up the background, giving very sharp and clear microscopical pictures."

The formulas are given in Huntoon's article for the preparation of Crystal Violet, Carbolfuchsin, Methylene Blue, and a few other stains, all using glycerin. Recently, other sources (2) (3) have given stains prepared with glycerin. This paper is intended to give the advantages we have found in using such stains and to give the formulas for the stains used in our clinical laboratory.

The use of glycerin in stains has kept the stains from precipitating out particles of staining agent on the sides of the bottles, the mouths of the dropper bottles, and the slide being stained for examination. This has the advantage of making it easier for technicians to know when the dropper bottle is nearly empty of staining solution. Also, with no stain precipitating on the slides, the stained

slide presents a clear and clean picture of the stained organisms and objects.

Somehow these stains have a wider latitude of staining time. The time values are the same as for other stains. However, the hurried technician will usually find beautiful stains when the staining time has unfortunately been exceeded by a minute or a couple of minutes. This latitude of safety is of inestimable value to accurate work in the laboratory and to the peace of mind of the hurried worker.

The stain seems to present more selectivity in its staining action. Also, the stain stains more deeply the organisms and objects stained by it. These advantages are a tremendous aid to the laboratory technician.

The Gram stains used by our laboratory are given below:

Huntoon's Crystal Violet.

Mix 15 parts of 3% Crystal Violet in 95% alcohol with 85 parts of 30% glycerin in water.

Safranin. (2)

Safranin	1.00 gm.
Distilled water	100.0 cc.
Dissolve, and add	
Glycerin	30.4 cc.

The advantages of using glycerin in stains has even been extended to the familiar Wright's stain for blood smears (3). We have used this stain for several months, and have found it to be superior to the older formula for Wright's stain. The advantages given above apply to this stain as well. It is noteworthy to state that the stain does not tend to evaporate so rapidly on the slide as does the older stain. Also, the beauty of the stained blood smear is readily apparent on microscopical examination. It is interesting to note that this staining formula was made up independently by an excellent technician just as given below, only to find that it was in a standard textbook.

The stain formula is:

Wright's powder	0.3 gms.
Glycerin	3.0 cc.
Methyl alcohol	97.0 cc.

This laboratory has never had any complaints with stains prepared with glycerin. The Gram stains have been made with glycerin for years. The advantages are stated above and more may be discovered by other users.

It is unusual to state that these stains have been accepted by widely separated laboratories. Laboratories, like this one, using excellent working procedures as these are occasionally startled to discover how few laboratories actually use the things they take for granted.

Mention should also be made of the vital staining of amoeba in the laboratory. A recent textbook (4) has stated that a 1-10,000 solution of neutral red in salt solution will stain the living amoeba if one drop is put on the suspension. There have been occasional mentions of other stains for this purpose in journals. Recently, a Medical Technologist in this city (5) discovered that a 1 to 1000 solution of Eosin in water would stain amoeba beautifully, with the addition of one drop to the suspension. This stain is in nearly all the laboratories. Certainly it makes the examination easier, and, in many instances, more rapid.

BIBLIOGRAPHY

1. Huntoon, F. M. Glycerin as Adjuvant to Bacterial Dyes. Am. J. Clin. Path., 1:317, 1931.
2. Bray, W. E. Synopsis of Clinical Laboratory Methods. The C. V. Mosby Company, 1938, pp. 362-363.
3. Miller, A. J. A Textbook of Clinical Pathology (edited by Roy R. Kracke and Francis P. Parker). The Williams and Wilkins Company, 1940, pp. 14.
4. Todd, James Campbell and Sanford, Arthur Hawley. Clinical Diagnosis by Laboratory Methods. 1943, pp. 500.
5. Personal communication from Mr. Cleo Craft. M.T. (A.S.C.P.), Vicksburg Sanitarium, Vicksburg, Miss.

MEETING OF THE BOARD OF REGISTRY WITH ADVISORY COMMITTEE OF MEDICAL TECHNOLOGISTS

JUNE, 1943

The Advisory Committee of Medical Technologists and Board of Registry met at 2:30 p. m. in the Hotel Drake on June 3, 1943, after having luncheon together at the same hotel. The following members of the Board of Registry were present: Dr. Lall G. Montgomery, Chairman, Muncie, Indiana; Dr. Kano Ikeda, St. Paul, Minnesota; Dr. I. A. Nelson, Tulsa, Oklahoma; Dr. James B. McNaught, San Francisco, California; Dr. Ralph Stillman, New York City, New York. The Advisory Committee members who were in attendance were Mrs. Evelyn Jardine, Chairman, President of the American Society of Medical Technologists; Miss Rose Matthaei, Houston, Texas, President Elect of the A. S. M. T.; Miss Frieda Claussen, St. Paul, Minnesota, Member Board of Directors A. S. M. T.; Miss Mary Buehl, Chicago Illinois; and Mrs. Clara Kruse, Louisville, Kentucky, the first two appointed to represent the A. S. M. T. and the latter three chosen at large from the Registered medical technologists.

The meeting was called to order by the Chairman, Dr. Lall B. Montgomery, who gave a report of the activities of the Registry during the past year, containing many interetsing statistics.

The examinations conducted in the past year by the Board of Registry were given in 179 different laboratories throughout the country in comparison to the former distribution of 125. This was deemed advisable due to transportation difficulties, and the Registry office found laboratories and pathologists willing and anxious to cooperate in this respect.

In the Spring of 1942, 656 examinations were scheduled, 59 cancelled; 498 applicants passed and 119 failed. In October, 1942, 681 examinations were scheduled, 56 cancelled; 551 applicants passed, 130 failed. The curve of the increase in the number of the

registrants showed a 12½% rise over last year which is approximately the same increase as in previous years.

The present roster shows 8,373 registrants in comparison to 7,452 last year, 170 having been dropped from the list for not having paid their dues for three years.

Fifty-four new approved schools were added in the past year. The present actual stated capacity for training students is 1577. During the year the Council on Medical Education approved the suggestion of the Board of Registry allowing two students to each instructor, rather than one, thereby increasing the capacity to 3,642, if such students were available.

There were 38,469 copies of the Technical Bulletin mailed from the Registry office during the past year, 1,107 transcript evaluations were made. It takes one clerk in the office full time to take care of nothing but changes of addres among the registrants. Two hundred and twenty-seven registrants were reported to have joined the Armed Forces.

A financial report of the Board revealed that the disbursements very closely approximated the receipts. Doctor Montgomery pointed out that the handling of pins, emblems, and placements was carried out at a loss financially, but that these activities would be continued as a convenience to the registrants.

After the report of the Chairman of the Board, a number of subjects were introduced for discussion. The problem of ways and means of meeting the national shortage of technicians was brought up and the discussion was led by Doctor McNaught.

Doctor McNaught outlined a list of suggestions:

1. That the quota of students per instructor be increased from one to two. This had already been taken care of and was considered a wise move.

2. That the Registry office act as a clearing house for the schools by determining which schools could handle more students and which were over-supplied, and thus distribute the number more evenly.

3. That financial aid be given prospective students by (a) lowering or abolishing tuition, (b) providing funds or scholarships, (c) enlisting Federal aid.

(a) The first of these might be advocated individually in dealing with hospitals or directors except in the case of colleges

which charge a regular tuition. Federal aid through the college might be worked out in the latter instances. [See (c)].

(b) The second suggestion was favored but it was thought that it would have to be a matter of individual communities and could not be handled nationally.

(c) The question of enlisting Federal aid, as in training of nurses, might be possible through the War Manpower Commission, especially for college students. This possibility is being explored.

4. That the prerequisites be lowered, the courses shortened, the apprenticeship method be used, that junior certification for high school graduates be instituted. All of these were unanimously voted against. Everyone, both pathologists and technologists, agreed that after working so hard to raise the standards, no step should be taken to slide back an iota from the peak already reached.

5. That wider publicity be given the profession of medical technologists, thereby interesting a larger group of students in taking up the work. A number of ways for accomplishing this were suggested:

(a) Through the vocational guidance departments of the high schools. It was felt that more of us now in the field should attempt to go to the schools and talk to the high school students about the profession.

(b) National advertising through magazines, feature writers, Red Cross, and the circularization in schools and libraries of such books already written as "Ladies in White", "Occupations for Women in Medicine" by Leo Kleinfelter, "Ladies of the Lab" by Helen Bial Woodward (formerly printed in "Mademoiselle"), etc. Mrs. Jardine suggested that it would be nice if the Registry could get out a "Catalogue" describing the prerequisites and courses, similar to the college catalogues. The Registry already sends similar information to vocational departments of schools.

(c) Through individual pathologists and technologists. It was again agreed that the problem of publicity and education was largely up to all of us as individuals to do all we can towards instructing the public about the profession by whatever means possible, writing articles, giving talks, etc.

The second question brought up for discussion was that of spurious organizations of laboratory workers. This discussion was led by Doctor Stillman, who explained that there was no way of attacking such organizations and the best thing to do would be to simply ignore them and assiduously keep our own standards clear and high and not lower ourselves in any way.

It was suggested that again a campaign of education, particularly among pathologists, physicians and hospital administrators, would be helpful in pointing out the difference between the technologists registered with the American Society of Clinical Pathologists and that group of technicians graduating from "unapproved" schools. The problem of how to carry out such a campaign was not solved.

It was then forcibly pointed out that the best way to combat these spurious groups was through a strong national organization of our own. The fact that we have a national organization, the American Society of Medical Technologists, whose membership is composed entirely of technologists registered with the A.S.C.P., seems to have escaped the notice of many registrants, who are not aware that the national organization and the Registry are not one and the same, and who through this lack of understanding have failed to give their support to the A. S. M. T. Without a strong national organization the technologists of America can never hope to hold their own in the solution of any problem. Registration with the "Registry" is not the same as belonging to the American Society of Medical Technologists as the Registry is not a society.

Again it was unanimously agreed that what we need is education —this time among the members of our own group. A closer cooperation between the State Societies and the National Society might also promote union and strength. To work towards these aims the Board of Registry agreed to help us "advertise" in the "Technical Bulletin" which reaches all registered medical technologists and to send our executive secretary a list of all new registrants at the time of their certification so that our society might contact them with information and encourage their joining. With a larger, stronger group of R.M.T.'s many of our present problems could readily be settled for us.

The third subject "State Licensure of Medical Laboratory Tech-

nicians" included a report by Doctor Montgomery of an instance in which a small group of unregistered technicians attempted to put through a licensure bill, through the influence of one particularly active person. The proposed law provided for a board of examiners consisting of technicians and pathologists, but stipulated that if the latter members were not appointed by a certain time, the technician members were given power to select pathologist members of their choosing. Such legislation would mean a definite lowering of our standards and after due consideration the Committee recognized this as a spurious bill and it was not returned from the Legislative Committee which was considering the bill.

In Minnesota where our state society is incorporated with the state, no such law could be passed by another group without first consulting our group. It was pointed out that many states are not in this enviable position, and that it is important for the American Society of Medical Technologists to inform the states so that they may take steps to insure themselves against the legislative enforcements of unqualified groups of technicians.

The fourth subject was that of "Inactive Medical Technologists" and how long a technologist may be entitled to hold her registry certificate after retiring from the field. There are now two types of certificates issued, a blue seal being issued for the "inactive group", and a red seal for the "active group".

A technologist may hold a certificate without working for five years by paying her dues annually, being, however, on the "inactive list". If at that time she wishes to hold her certificate she will be required to take a six months "refresher course", working (with or without pay) under a pathologist in order to be placed on the active list.

By working three months a year every year, a technologist may retain her active standing indefinitely.

The fifth subject for discussion was that of "Post-graduate training for Medical Technologists", led by Doctor Ikeda. Doctor Ikeda reported that the Board of Registry passed and the Executive Committee of the A.S.C.P. approved the resolution which proposes the expenditure of 40 per cent of excess of annual income over expenditure of the Registry to be set aside for the furtherance of the interest of medical technology.

Plans are under way to prepare material for a seminar in parasitology. This includes the collection and preparation through the help of the Army Medical School of sets of slides to be made available for the use of state or local groups or approved schools desiring to sponsor such instruction. Directions as to how and when these slides may be obtained will be printed in the Technical supplement. The Registry will announce further developments if and when such a program is instituted.

The "Curriculum for Schools of Medical Technology" by Dr. Israel Davidsohn of Mt. Sinai Hospital in Chicago, was discussed by Doctor Nelson. Doctor Nelson praised the book and explained its value to the laboratories giving courses in medical technology. Doctor Davidsohn's own technician, Miss Buehl, explained the use of it in their own laboratory and it was highly recommended as a basis for the conducting of a satisfactory course. The book may be obtained through the Registry office.

The "Army recognition" for technologists was again brought up and it was agreed that this was, again, a subject to be handled by the American Society rather than the Registry. Mrs. Jardine stated that the matter would be taken up at the Board of Directors meeting of that society.

Miss Matthaei inquired as to the possibility of technologists, who had specialized in certain branches of the field, becoming registered. The board pointed out that such cases were handled individually and arrangements for special examinations must be made with the Registry by the candidate.

The meeting was adjourned at 5:00 p. m. with the feeling that each year brings a closer cooperation between the Board of Registry and the technologists, and a definite advancement in the profession and science of medical technology is being made.

Respectfully submitted,

FRIEDA H. CLAUSSEN, M.T. (A.S.C.P.)

Charles T. Miller Hospital,
St. Paul, Minn.

ABSTRACTS

A TEST PAPER FOR THE RAPID ESTIMATION OF THE LEVEL OF SULFONAMIDE IN SERUM: W. V. LaRose, Proc. Soc. Exp. Biol. & Med., vol. 53, No. 2, June, '43, p. 98.

Large pieces of a good grade of absorbent paper are dipped in the following mixture: 1g. p-dimethylaminobenzaldehyde dissolved in 2 cc. conc. HC1, 0.8 cc. syrupy phosphoric acid (sp. gr. approx. 1.7) and water to make 100 cc. Papers are dried immediately and stored in covered glass jars in the dark for 5-10 days. The HC1 evaporates. The yellow edges of the paper are trimmed and the papers cut into strips and stored in glass vials.

The test is carried out by evenly spreading the serum over one end of the test paper being careful that no unabsorbed serum is left to leach out the reagent. Comparison is made over a white porcelain background with a set of dry standard strips which may be prepared in any manner including the use of water colors. With practice, readings which come within 1 mg. of determinations by the Bratton-Marshall method are reported obtainable.

As the color obtained is influenced by protein this test is applicable as devised only on serum and there is a possibility of error on sera of pathological protein content. This has not yet been studied.

AN UNUSUAL MYCOBACTERIUM—Isolated From Sputum of a Man Suffering From Pulmonary Disease of Long Duration. W. H. Feldman, R. Davies, H. E. Moses & W. Andberg, Am. Rev. Tub., vol. 48, No. 2, Aug., '43, p. 82.

This patient was 53 yrs. old and had been an underground miner for 25 yrs. prior to his illness. X-Ray examination of the chest disclosed what appeared to be far advanced, bilateral pulmonary silicotuberculosis. Acid fast bacilli were isolated from the sputum but failed to produce tuberculosis in guinea pigs. Tuberculin tests on the patient's wife and 6 of his 10 children were negative, while roentgenograms of 7 children available were negative. Sputum cultures of this organism sensitized guinea pigs, rabbits and chickens

to avian tuberculin and occasionally to mammalian tuberculin. This organism was not pathogenic for guinea pigs but was able to establish tuberculous-like lesions in rabbits and chickens in some instances. The variations in the cultural characteristics suggested an instability of the organism. A possible explanation of this case is that the patient had a silicosis which provided an area favorable for the development of parasitism in an organism usually not parasitic for human beings.

When typical forms of tubercle bacilli cannot be isolated from patients suffering from diseases resembling tuberculosis, it is advisable to search for atypical or unusual strains of mycobacteria.

LIMITATIONS OF THE ERYTHROCYTE SEDIMENTATION RATE IN TUBERCULOSIS: A. L. Banyai & A. V. Cadden, Arch. Int. Med., vol. 72, No. 2, Aug., '43, p. 245.

This article is based on observations of sedimentation rate in 2,640 tuberculous patients over a period of 4½ yrs. Normal rates were obtained in 8%. Normal rates were observed in active tuberculosis in all age groups and in primary infections as well as in reinfection cases. No definite parallel could be drawn between the sedimentation and the extent of the tuberculosis, nor was it entirely reliable in indicating the progress of a case as it frequently returned to normal while open cavities existed and while the sputum was still positive. The conclusions reached were that the clinical value of this test is greatly overestimated and that it should not be used as an independent index in management.

PRODUCTION OF Rh ANTISERUM BY INOCULATION OF GUINEA PIGS WITH HUMAN ERYTHROCYTES: F. W. Gallagher & L. R. Jones, Proc. Soc. Exp. Biol. & Med., vol. 53, No. 2, June, '43, p. 119.

Antisera used for determining Rh classification of individuals has thus far been derived from two sources, the serum of guinea pigs immunized against red blood cells of Rhesus monkeys and the serum of Rh — human beings who have developed anti-bodies against Rh antigen. This of necessity limits the amount of available serum.

In this work cells from an Rh +, group O, type MN individual

were used in varying amounts for the inoculation of guinea pigs over a period of 3 months. The immune sera thus obtained when absorbed according to the method previously reported by the authors, (Science, 1941, 94, 612) with group O, type MN, Rh — cells, was found to differentiate clearly between known Rh + and Rh — human erythrocytes of all blood groups.

The posibility of producing Rh antisera in this manner should greatly increase its availability.

THE VALUE OF EXACT SPUTUM EXAMINATION (LARYNGEAL SWAB CULTURE) IN THE DIAGNOSIS AND MANAGEMENT OF PULMONARY TUBERCULOSIS: D. Munro-Ashman & E. Nassau, Tubercle, vol. 24, No. 5, May, '43, p. 79.

The value of this technique in detecting infection in cases without sputum and with only indefinite radiological findings is illustrated by case reports. The technique used is that of Nassau. The swab is made up of a fairly strong wire approximately 9" long. One end is flattened and formed into a spiral, wrapped with cotton and this end bent to about a 30° angle. These are sterilized, dipped in sterile water to facilitate adhesion of sputum and passed down the larynx. The patient is told to cough. The swab is withdrawn, straightened by sterile forceps, placed in 10% sulfuric acid for 5 min., transferred to 2% NaOH 5-8 min. and cultured in modified Petragnani medium. These are incubated at 37°C. for 28 days. Using many swabs on successive days increases the chance of positive findings.

CHEMOTHERAPEUTIC PROPHYLAXIS WITH SULFONAMIDE DRUGS. II. THE EFFECT OF SMALL DOSES OF SULFATHIAZOLE OR SULFADIAZINE ON MENTAL EFFICIENCY AND HAND-EYE COORDINATION: F. W. Reynolds & G. W. Shaffer, Am. Jr. Syph., Gon. & Ven. Dis., vol. 27, No. 5, Sept., '43, p. 563.

This study was undertaken because of the widespread use of sulfonamide drugs in small doses for the prevention of venereal disease, especially in the Armed Forces. A previously reported study showed that sulfathiazole or sulfadiazine had a slight and transitory effect on visual efficiency. In the present study, various performance tests were applied alike to the control group and to the group receiving the drug. No change of statistical value in either

function followed either drug. In the group receiving sulfathiazole, a few persons appeared to have an idiosyncrasy as their performance scores were much lower than those of all the others. This did not occur in the group receiving sulfadiazine.

SULFONAMIDE THERAPY IN ACTINOMYCOTIC INFECTIONS: C. Lyons, C. R. Owen & W. B. Ayers, Surgery, vol. 14, No. 1, July, '43, p. 99.

Five cases are reported. An anaerobic Actinomyces bovis was causative in one cervicofacial, one pulmonary, one pulmonary and abdominal and one abdominal infection. The fifth case, an abscess of the buttocks, was due to an aerobic non-acid fast actinomyces. Sulfonamide therapy was used to supplement surgical treatment in each instance. Long continued treatment was essential. In one case dosage of 4 g. daily continued for 9 months produced healing for two years. In general smaller doses for equal or even longer periods of time did not prevent formation of recurrent abscesses and fistulous sinuses. The authors favor surgical excision of infected tissue and sulfonamide therapy.

INFLUENCE OF THIAMINE ON INDUCED HYPERTHYROIDISM: R. D. Williams & E. C. Kendall, Arch. Int. Med., vol. 72, No. 2, Aug., '43, p. 185.

Two healthy women were maintained on an otherwise adequate basal diet containing only 0.22 mg. thiamine per 1000 calories. One was given 0.6g. desiccated thyroid daily and the other 0.5g. After a preliminary observation period each was given liberal amounts of thiamine hydrochloride daily for 21 days. Then it was limited to 0.45 mg. daily during 136 days and raised again for a period of 81 days.

During the first period the BMR of both rose to approximately plus 25%. When thiamine was restricted, the rates dropped to minus 8% and plus 11% respectively but, when thiamine was again provided in the last period, the rates rose to plus 25% and plus 30%.

Thyroid hormone was found much more efficient when dietary thiamine was adequate then when a state of deficiency existed.

THE RELATIONSHIP OF ACUTE ANEMIA TO WOUND HEALING: E. L. Besser & J. L. Ehrenshaft, Surgery, vol. 14, No. 2, Aug., '43, p. 239.

The authors in reviewing the literature frequently found the statement that wounds do not heal well in patients with anemia. However, no experimental reports on this subject were found.

In their studies, 52 dogs were maintained for a period of time on adequate diets and then 2 incisions 4 cm. long were made in the stomach of each, one near the pylorus and the other in the cardia. The former was used in the determination of tensile strength and the latter for microscopic study. Anemia was induced in half of the animals by withdrawing blood from the femoral artery with plasma replaced immediately by intravenous infusion of pooled dog plasma. The anemia produced ranged from moderate to extreme but there was no significant change in plasma protein.

Observations were made at various time intervals. The incised areas were tested for tensile strength by stretching that area over an Erlenmeyer flask and applying manometrically controlled pressure. The mean values in tensile strength for control and anemic dogs showed no significant differences. Microscopic studies corroborated this.

This indicates that acute anemia due to hemorrhage treated with plasma in lieu of whole blood does not retard wound healing. Other disadvantages, however, such as lowered resistance to infections, etc., may still exist.

OSTEOMYELITIS OF THE SPINE FOLLOWING LUMBAR PUNCTURE: L. Findlay & F. H. Kemp, Arch., Dis. Childhood, vol. 18, No. 94, June, '43, p. 102.

This is a case report of a child 1 mo. old admitted suffering from a "profuse nasal discharge, purulent conjunctivities of the left eye and ulceration of the buttocks, scrotum and legs, apparently of a septic nature." The provisional diagnosis was generalized bronchitis in a badly cared for infant. The next day some rigidity appeared and the child had 2 short convulsions. This made meningitis a consideration and spinal puncture was attempted on 2 occasions. No fluid was obtained. The operator was conscious of having injured the spinal column because of a grating of the needle.

This needle track showed infection in 4 days and S. aureus was isolated. In spite of treatment with sulfapyridine, the infection progressed until X-rays showed destruction of the bodies of the 2nd and 3rd lumbar vertebrae. Sulfathiazole was then used but the infection continued with new and distant areas becoming involved. The left femur showed periostitis, a finger showed osteitis and swelling and subsequent incision of this showed S. aureus.

The patient recovered with penicillin therapy. The writers call attention to the direct indications that this was the result of organisms introduced by lumbar puncture. Fortunately the tap was not successful or the staphylococci could have caused a meningitis.

A STUDY OF THE PHYSICAL FACTORS CONCERNED IN INFLAMMATION. III. THE FIXATION OF BACTERIA IN INFLAMED TISSUES: C. J. Bellis, Surgery, vol. 14, No. 1, July, '43, p. 111.

Inflammatory lesions were developed in rabbits and rats by the subcutaneous injection of bacteria and by the immersion of extremities in hot water (60°C.) for 1 minute. Dyes injected in these areas had difficulty diffusing out or, if injected into the surrounding normal tissue, in diffusing in. Injected bacteria appeared to be fixed in the same "blockade" manner.

Intravenously injected dye or bacteria were also fixed in the inflamed area. Blood was cleared of injected bacteria in 15 min. with the organisms concentrated in the reticulo-endothelium (liver and spleen). Within a few hours growth in these structures became excessive and the bacteria overflowed into the circulating blood.

THE CHEMOTHERAPEUTIC EFFECT OF ESTERS OF PENICILLIN: K. Meyer, G. Hobby & M. H. Dawson, Proc. Soc. Exp. Biol. & Med., vol. 53, No. 2, June, '43, p. 100.

Due to the rapid excretion of penicillin, it has been difficult to maintain desirable blood levels and consequently the drug has been difficult to administer. These authors worked with the ethyl and n-butyl esters of penicillin which, in contrast to penicillin, are not destroyed at the pH of the stomach and retain their activity when administered by mouth. Due to the less regular absorption, however, an oral dose ten times the subcutaneous dose was found desirable. Though the toxicity of these two esters is about two or

three times that of penicillin, it is sufficiently far above the therapeutic level to be permissible.

These esters are inactive in vitro but have shown very good therapeutic properties in mice infected with large doses of virulent streptococci of the hemolytic type. They are probably slowly hydrolyzed with the liberation of active penicillin.

CAROTINAEMIA IN A SUCKLING: M. L. Thomson, Arch. Dis. Childhood, vol. 18, No. 94, June, '43, p. 112.

This is a case report of a mother and 6 mo. baby showing "jaundice." Discontinuing breast feeding improved the color of the baby but the mother continued to show a sallow yellow pigmentation of the whole body except the sclera. The icterus index was 8 but the serum bilirubin only 0.1 mgm. per cent. Investigation disclosed she had been eating 2-3 pounds of raw carrots weekly in addition to a normal consumption of cooked vegetables including carrots. This differentiation between jaundice and carotinaemia was based on the "3-layer test" in which equal parts patient's serum, alcohol and petroleum ether are shaken and allowed to separate. The pigment in this instance was extracted by the upper layer of petroleum ether.

METABOLIC STUDIES IN PATIENTS WITH CANCER OF THE GASTROINTESTINAL TRACT. VI. DISORDERS IN ALIMENTARY DIGESTION AND ABSORPTION IN PATIENTS WHO HAVE UNDERGONE TOTAL GASTRECTOMY FOR CARCINOMA OF THE STOMACH, P. E. Rekers, G. T. Pack & C. P. Rhoads, Surgery, vol. 14, No. 2, Aug., '43, p. 197.

Since patients who have undergone total gastrectomy generally complain of intestinal disorders and develop anemia, this work was undertaken with a view to ascertaining whether or not this may be due to abnormal use of the simple constituents of the diet.

These individuals were found to have impaired ability either to digest or absorb the fat ingested and, in one patient, the protein. Evidence indicated this could not be due to bile salt deficiency or to a deficiency of lipocaic, a pancreatic hormone. Administration of pancreatic enzyme appeared to aid the fat metabolism in one case, while two were improved by supplementing the diet with beef. These patients have a refractory rather than a macrocytic anemia.

BOOK REVIEWS

MICROSCOPIC TECHNIQUE IN BIOLOGY AND MEDICINE: By E. V. Cowdry, Professor of Anatomy, Washington University, and Director of Research, The Barnard Free Skin and Cancer Hospital. Published by The Williams & Wilkins Company, Baltimore, 1943, pp. 206. Price, $4.00.

The author relates in his preface the purpose of this book: "to extend the horizon by exposing in an introductory way a few of the many opportunities awaiting workers in biology and medicine interested in the minute structure of living things." He submits that "definite information" will be in greater demand than "general statements", hence "choice of methods" and "organization of laboratory" have been limited to a few pages, but they are deserving of review. As to procedure, direct in vivo examinations, vital and supravital staining, tissue culture, microdissections and micro injections, selection of illumination, fixation and staining and numerous other important steps in microscopic study are discussed briefly.

Organization of a laboratory contains suggestions as to necessary equipment, the care of same and comments on the ultimate purpose of its operation. A chapter on stains and their standardization contains much of importance on this subject, such as the meaning of certification and the coordination of past and present effort to provide only dependable dye-stuffs.

The major portion of the book, pp. 17 to 206 inclusive, describes various technical procedures. Staining methods, tissue reactions, nature of differentiated cellular structures, demonstration of enzymes, preparation and preservation of gross and microscopic specimens and much other related material are paragraphed concisely in alphabetic order. Abridgement may obscure rather than clarify unless critically employed. The reviewer's opinion, however, of Cowdry's presentation is that his subject material has suffered no untoward distortion by condensation and there are a sufficient number of references to enable the curious to elaborate his information by other sources should he elect to do so.

This book is recommended to students, technologists, clinicians —in fact all workers in biology and medicine will find it useful at the work table instead of on the book shelf.

REHABILITATION OF THE WAR INJURED: A Symposium. Edited by William Brown Doherty, M.D. and Dagobert D. Runes, Ph.D. Publishers, Philosophical Library, Inc., 15 East 40th Street, New York, N. Y. Price, $10.00.

The time is now approaching when the rehabilitation of war veterans will be a challenge to the members of the medical profession both in and out of the armed services. This symposium is designed to meet that challenge. Numerous American and British collaborators both in and out of the armed services have combined their experiences and knowledge to make this symposium a timely contribution for the benefit of those who will be meeting the problems of rehabilitation. The various sections include neurology and psychiatry, reconstructive and plastic surgery, orthopedics, physiotherapy, occupational therapy and vocational guidance, legal aspects of rehabilitation and vascular and neurologic lesions in survivors of shipwreck. The book is not designed to make a specialist out of the reader in all of these fields but it can and does familiarize one with the methods and techniques that have proved worthy in both civilian and war practice. Those who are specialists will find valuable new suggestions gained from experiences in the present conflict.

NEWS AND ANNOUNCEMENTS

SERVICE ROLL

Members of the American Society of Medical Technologists in the service of their coun.., :

Lt. Col. Arthur T. Brice
Major J. A. Wood
Major Theodore Keiper
Capt. Walter J. Dell
Ralph M. Carrel, 1st Lt. SnC
Lt. Timothy L. Duggan
Frederick W. Hindley, 1st Lt. Sanitary Corps.
Lt. Margaret E. Johnston, W.A.C.
Lt. Margaret M. Nichols
Lt. Wm. J. Noble, Jr., Sn. C.
Lt. Margaret M. Petritz
Nelson E. Brown, Ph.M 1/cU.S.N.
Ensign Dorothy L. Chandler, W.V.(S) U.S.N.R.
George B. Campbell, Ph.M. 1c
Raymond J. Gough, Ph. M 1/c
Afc Helene E. Jacobs, WAC
Pvt. Margaret E. Little
Rosemary Nostdal
Genevieve Stout, Ensign, W-V(S)
Russell L. Wallace, C. Ph.M., U.S.N.

NEW JOURNAL SHEDS LIGHT ON SOVIET MEDICINE

The first number of the American Review of Soviet Medicine which appeared on October 25th, featured papers by Dr. E. I. Smirnov, executive director of the Red Army Medical Corps, and Dr. Nikolai N. Burdenko, chief surgeon of the Red Army. Dr. Smirnov's paper reveals for the first time the pre-war plans made for the care and hospitalization of the wounded, their shortcomings under actual battle conditions, and their subsequent drastic revision to meet the exigencies of mobile defense and attack. Dr. Burdenko, who has recently been granted honorary membership in the International College of Surgeons, discusses the effects of frostbite on the nervous system.

Sharply contrasting points of view on restorative surgery of peripheral nerve lesions are presented by Dr. Vladimir V. Lebedenko and Dr. N. I. Propper-Grashchenkov. Dr. Lebedenko disputes the prevailing view that three months must elapse after injury before restorative surgery may be undertaken while Dr. Propper-Grashchenko holds that the long time-lag is essential and that defects may be remedied by nerve transplantation.

Dr. Spasokukotski's revolutionary method of feeding during operations on penetrating abdonimal wounds is described in a paper by Dr. V. A. Panikov. The method consists of introducing a mixture of eggs, milk, distilled alcohol, and other foods into the abdomen during surgical interference and is said to have produced remarkable results.

The issue also contains three survey papers: "Cancer Research in the Soviet Union," by Michael B. Shimkin, M.D., past assistant surgeon, National Cancer Institute, Bethesda, Md.; "Physical Culture in the Soviet Union," by Percy M. Dawson, M.D., professor of physiology, Duke University, Durham, N. C.; and "Twenty-Five Years of Health Work in the Soviet Union," by Henry E. Sigerist, M.D., director of the Institute of the History of Medicine, Johns Hopkins University, Baltimore, Md., and editor of the review.

A profile of Dr. Nikolai Burdenko, clinical notes taken from Soviet journals, book reviews, and society notes complete the issue. Among the book reviews is a discussion of the fluoride which makes dentistry painless.

SURVEY SHOWS MANY WILD CINCHONA TREES IN ECUADOR

Guayaquil, Ecuador, smallest of the South American republics on the Pacific coast, is one of the biggest potential suppliers of quinine in the Western Hemisphere.

A recently-completed survey placed the number of wild quinine-bearing trees in the country at ten million, and pointed out that this was a conservative estimate.

The survey was conducted by the Ecuadoran Development Corporation, the governmental agency directing collection of quinine-bearing bark for the United Nations.

Quinine, as an anti-malaria drug, is a vital war material, needed to protect soldiers on fighting fronts in tropical regions as well as for rubber tappers who range malaria-ridden jungles of South and Central America. Quinine is produced from the bark of the cinchona tree.

Ecuador did not wait for completion of the survey to begin collection of cinchona bark. Tons of the bark have been moving for months to the United States from known stands of the trees.

The survey has provided the pattern for large-scale plans to expand production. Under these plans, laboratories and purchasing stations are rising in strategic locations. Location of the laboratories near centers of stands of cinchona trees will permit quick analysis to determine exact content of alkaloids in the cinchona barks.

To date laboratories have been established in Cuenca and Quito. Purchasing stations have been established in these cities and Portobel.

Collection of cinchona bark is expected ultimately to become virtually nation-wide in Ecuador. The survey showed fourteen of Ecuador's seventeen provinces have conditions, climatic and geographical, favorable for production of cinchona trees. Even in the remaining three provinces, the survey pointed out, there was a "variable" production of cinchona.

Ecuador, like other American republics in tropical and sub-

tropical regions, is a native habitat of the cinchona tree. Some fifty years ago the cinchona producing countries of the Hemisphere were the chief world suppliers of quinine. Then cinchona seeds were transplanted to the Far East, and subsequently developed into a plantation industry, which replaced American cinchona in the world market.

With the loss of Far Eastern plantation supplies, the United Nations have become heavily dependent on wild cinchona from the Americas.

MEDICAL MEN FIGHTING MALARIA FIND MINERAL SOURCES

Medical men fighting in the front lines of the Western Hemisphere's battle against disease are penetrating remote places in the other Americas which hold rubber, minerals and other strategic resources required by the United Nations.

Illustrating these medical operations in far corners of the hemisphere is the story of a successful fight against an epidemic of malaria in the primitive La Guajira peninsula of Colombia. This story is told in reports to the Institute of Inter-American Affairs, Washington, which is cooperating with seventeen of the other American republics in an inter-American health and sanitation program in the support of wartime development of hemisphere economic resources and defenses.

The doctors fought what Colombian public health men say was one of the worst malaria epidemics they have known in many years.

At the same time, during their explorations, the medical men found coal deposits, stands of cinchona-bearing trees and deposits of mica, all holding possibilities for economic development.

The peninsula is located in the extreme northwest of Colombia. On the map it looks like a thumb pointing into the Caribbean, between the Sierra Nevada and the Gulf of Maracaibo.

It has long been known to be rich in natural resources but was never thoroughly explored. Remote from Colombia's modern cities

of Bogota, Medellin, Barranquilla and Cali, the Guajira area, with its Indian population, has never entered into the economic and social life of the republic.

The fight against the malaria epidemic carried the doctors into sections of the peninsula little traveled by white men. Now Dr. Juan Jose Hoyos, one of the doctors, has reported the existence of extensive coal deposits, along with stands of cinchona trees and deposits of mica, a strategic mineral in wartime demand for use in electrical equipment.

When the malaria epidemic early in 1943 threatened to decimate the 25,000 aboriginal inhabitants of the region, a medical mission was assigned to fight the epidemic by the Servicio Cooperative Inter-Americano de Salud Publica, an agency set up by the Colombian government to cooperate in the inter-American health and sanitation work. The mission consisted of three doctors, a laboratory specialist and two sanitary inspectors, headed by Dr. Alfredo Landinez Salamanca, a Colombian physician.

With horses and a "jeep", provided by the United States military attache and the Colombian government, the medical men traveled the crude trails and back country of the peninsula, bringing effective modern medical aid to the Indian villages where the magic of Indian medicine men had failed.

The mission distributed more than 100,000 tablets of anti-malarial drugs, vaccinated 18,000 persons against smallpox and laid the foundation for long-range preventive work against further disease outbreaks.

As part of this long-range work, a health center is to be set up at Uribia, from which will be operated a mobile dispensary manned by a doctor and an assistant. This patrol regularly will make the rounds of Guajira trails and Indian villages.

Near the end of the 1943 campaign against the malaria epidemic, according to the doctor's reports, the Indian chiefs told the medical mission:

"The white man's medicine is better than the Indian man's medicine."

The mission estimated that 80 per cent of the population were attacked by malaria, with a mortality rate of 6 per cent. After three months' work, the malaria deaths virtually ceased.

STATE AND LOCAL SOCIETIES

●

ATTENTION — SECRETARIES OF STATE AND LOCAL SOCIETIES

The American Journal of Medical Technology is a Bi-Monthly publication, therefore, it will be necessary for the Program Committees of your Societies, State and Local, to make note and follow the schedule suggested below, to insure proper publicity of programs.

By OCTOBER 10th send to me your program for November, December and January. This will appear in the November Number of the Journal.

By DECEMBER 10th send to me your program corrected or revised for January together with your programs for February and March, to appear in the January Number.

By FEBRUARY 10th send to me your program, corrected or revised for March, together with your program for April and May, to insure appearance in the March Number of the Journal.

By APRIL 10th send to me your program, corrected or revised for May, together with your program for June and July. To appear in the publication for May.

By JUNE 10th send to me your program for September, and if possible for October and November or the year's tentative program, together with the list of officers to hold office in the coming year. This will appear in the July Number of the Journal.

By AUGUST 10th send to me your program, corrected or revised for September, together with your programs for October and November. This will be published in the September Number of the Journal.

From here the cycle repeats itself. It does not seem too much to expect as all organizations have to look and plan in terms of the future.

This department of the Journal of Medical Technology can only succeed as a result of your cooperation.

I wish to take this opportunity to thank you who responded so promptly to the questionnaire which was sent to you. It gives me

courage to go on with the development of this department as desired by the Editor-in-chief.

Thank you also for your good wishes. I fully appreciate the fact that you took time out of your busy day to enclose personal good wishes to this department and to the American Society of Medical Technologists.

CADDO PARISH SOCIETY OF MEDICAL TECHNOLOGISTS
Not affiliated with
American Society of Medical Technologists
1943-'44
Regular meetings: Monthly.
Officers

A. Merlin McKinnon, M.T. (ASCP).....President
Eola Annie Kendrick, M.T. (ASCP).....Vice-President
Harriet Haymond Cypert, M.T. (ASCP).....Treasurer-Secretary
c/o Barksdale Field Hospital Laboratory, Barksdale Field, La.

Santa Barbara Chapter
CALIFORNIA ASSOCIATION OF MEDICAL LABORATORY TECHNICIANS
Not affiliated with
American Society of Medical Technologists
1943-'44
Regular meetings: Last Monday of each month.
Officers

Grace P. Butera, M.T. (ASCP).....President
Mary D. Reynolds, M.T. (ASCP).....Vice-President
Etta Steen.....Secretary-Treasurer
Florence Connelly.....Corresponding Secretary
317 West Pueblo Street, Santa Barbara, Calif.

DISTRICT OF COLUMBIA SOCIETY OF MEDICAL TECHNOLOGISTS
Affiliated with
American Society of Medical Technologists
1943-'44
Regular meetings: Last Thursday of each month.
Business meetings: October, January and April

Officers

Zanerian E. Funk, M.T. (ASCP) ..... President
Virginia Crowe, M.T. (ASCP) ..... Treasurer
Evelyn Fuller Ballou, M.T. (ASCP) ..... Secretary

4105 Third Street, N.W., Washington, D. C.

LITTLE ROCK SOCIETY OF MEDICAL TECHNOLOGISTS

Not affiliated with
American Society of Medical Technologists
1943-'44

Regular meetings: Quarterly.

Officers

Marcella Drilling, M.T. (ASCP) ..... President
Sadie W. Overton, M.T. (ASCP) ..... Vice-President
Lollie Florida Cayce, M.T. (ASCP) ..... Treasurer
Lila Church ..... Secretary

2116 Orange Street, North Little Rock, Arkansas

MINNESOTA SOCIETY OF MEDICAL TECHNOLOGISTS

Affiliated with
American Society of Medical Technologists
1943-'44

Regular meetings: Annually — Time: May.

Officers

Dorothy Schommer, M.T. (ASCP) ..... President
Chauncey Winbigler, M.T. (ASCP) ..... President-Elect
Doris Audrey Grambow, M.T. (ASCP) ..... Vice-President
Marion Stephenie Polasky, M.T. (ASCP) ..... Treasurer
Thelma Naomi Erickson, M.T. (ASCP) ..... Secretary

1211 East Fourth Street, St. Paul, Minnesota

NEBRASKA SOCIETY OF MEDICAL TECHNOLOGISTS

Affiliated with
American Society of Medical Technologists
1943-'44

Regular meeting: Annually — Spring.

Officers

Wilma Eicher, M.T. (ASCP) ..... President
Romana Forbes, M.T. (ASCP) ..... President-Elect
Florence Tucker, M.T. (ASCP) ..... Vice-President
Harriet L. Paige, M.T. (ASCP) ..... Treasurer
Mary H. McMillan, M.T. (ASCP) ..... Secretary

434 Aquila Court, Omaha, Nebraska

THE NEW HAMPSHIRE SOCIETY OF MEDICAL TECHNOLOGISTS

Not affiliated with
American Society of Medical Technologists
1943-'44
Regular meeting: Annually — Time: May.

Officers

Sister Marie-Rose (Larivee), M.T. (ASCP) ..... President
Alice Wood, M.T. (ASCP) ..... Treasurer
Marion Patricia MacMartin, M.T. (ASCP) ..... Secretary

Mary Hitchcock Memorial Hospital, Hanover, New Hampshire

THE PENNSYLVANIA SOCIETY OF MEDICAL TECHNOLOGISTS AND LABORATORY TECHNICIANS

Affiliated with
American Society of Medical Technologists
1943-'44
Regular meetings: Second Monday of each month.

Officers

Doris Hildreth Bradway, M.T. (ASCP) ..... President
Dolores Boland Norley, M.T. (ASCP) ..... President-Elect
Fannie King DeSilver, M.T. (ASCP) ..... Recording Secretary
Katherine C. Bradley, M.T. (ASCP) ..... Treasurer
Ethel Jeanette Smith, M.T. (ASCP) ..... Membership Chairlady

1919 Wynnewood Street, Overbrook, Pennsylvania

Elsa Richter Lynch, M.T. (ASCP) ..... Corresponding Secretary

7203 Cresheim Road, Philadelphia, Pennsylvania
Shreveport, Louisiana

OMAHA-COUNCIL BLUFFS SOCIETY OF MEDICAL TECHNOLOGISTS

Not affiliated with
American Society of Medical Technologists
1943-'44

Regular meetings: Bi-Monthly — Third Wednesday

Program

November: Group discussion, headed by Medical Technologists of Clarkson Hospital

Officers

Kathern Belle Forest, M.T. (ASCP).....President
Mary Harriet McMillan, M.T. (ASCP).....President-Elect
Josephine Benal, M.T. (ASCP).....Treasurer-Secretary
c/o City Health Dept., City Hall, Omaha, Nebraska

SAVANNAH SOCIETY OF MEDICAL TECHNOLOGISTS

Affiliated with
American Society of Medical Technologists
1943-'44

Regular meetings: First Tuesday of each month.

Programs

October: Subject—"The Technician's Part in Diagnosis, by Means of Laboratory Tests, in Surgery." Also colored films of interesting operative cases.
Speaker: Doctor Eric C. Johnson, U. S. Marine Hospital (P.H.S.)
November: Subject—"Ethics of the Medical Technologists."
Speaker: Doctor Lee Howard, Pathologist, U. S. Marine Hospital.

Officers

Sadie Cartwright, M.T. (ASCP).....President
Barbara Freeman, M.T. (ASCP).....Vice-President
Jurelle S. Hooper, M.T. (ASCP).....Treasurer-Secretary
20 East 56th Street, Savannah, Georgia

Colorado

The President of the Colorado Society of Medical Technologists has requested that I send you an outline of the program for the State Convention held June 6, 1943. The program was as follows:

The morning program started with registration and breakfast for the members. Later, Miss Elizabeth O'Toole, Bacteriologist of the Colorado School of Medicine and Hospitals, presided over a seminar given by medical technologists throughout the state. The speakers in the seminar were: Miss Naomi Stark, Miss Eleanor Meek, Miss Dorothy Stott, Miss Rose Hackman, Miss Edna Mains, and Mrs. Mabel Stewart.

The afternoon program was highlighted by a renowned scientist and famous personality, Dr. Florence Sabin, Member Emeritus of the Rockefeller Institute. Her address to the Convention was flattering and sincere. She said that work which the doctors formerly could trust to no one but themselves they are now relieved to put into the hands of the present-day trained technologist. Dr. Sabin enlarged on her subject "Technique in Modern Medicine" by giving some history of medical progress all over the world. The Colorado Society was proud to have Dr. Sabin as a guest at the Convention.

Another speaker of honor, and an old friend to those in the Society, was Dr. Willian C. Black, Professor of Pathology in the University of Colorado School of Medicine and Hospitals. Dr. Black spoke well and illustrated his talk on Chaga's Disease and related diseases, such as Oriental Sore and Kalaazar, etc. He held undivided attention for it is well-known that parasitology is among the technicians' favorite studies.

We were very fortunate in having Lt. Col. John B. Grow, Chief of Surgical Service at Fitzsimons General Hospital, speak about "Surgical Treatment of War Injuries." The subject is of general interest now, and of vital importance to all in the profession.

The Convention closed with a formal dinner. Aldula Johnson, President of the Colorado Society of Medical Technologists, presided at the Convention.

KEEPING ABREAST OF THE TIMES

By DOROTHEA EVANS BENNETT, M.T. (ASCP)

Nevada is a large state wth a small population and many miles between its cities. In the state there are six registered (ASCP) Medical Technologists, and five of these are emp'oyed either at St. Mary's Hospital or at the Washoe General Hospital which is also

in Reno. The impossibility to get together at one time and to have a speaker for so small a group does not keep these progressive M.T.'s from knowing what is going on at all times. The Washoe County Medical Society is kind enough to invite them to their meetings whenever there is a speaker of note or an interesting subject up for discussion. Recently they had the pleasure of hearing an informative presentation by Dr. William Hammond of the Hooper Foundation on "Infantile Paralysis and the Kenny Treatment."

REGISTRY OF MEDICAL TECHNOLOGISTS
OF THE
AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS

At the June meeting of the Board of Registry, it was decided that, in view of the great need for technologists, a widespread program of recruitment of students would be instituted. The Board of Registry urges each registrant to assume her individual responsibility in this respect, and suggests that she grasp every possible opportunity to interest high school and college students in this field. For further suggestions and assistance, write to:

Mrs. Ruth Drummond
Ball Memorial Hospital
Muncie, Indiana

Please Mention Publication When Writing Advertisers

MARVIN-NEITZEL CORPORATION

Official Outfitters to the

American Society of Medical Technologists

The laboratory coat which is made either from "manecor" Linen Finish Sheeting at $2.25 ea. or White Army Duck at $2.75 ea., is selected as the official uniform of the A. S. M. T. Arrangements have been made with the Marvin-Neitzel Corporation of Troy, N. Y., to furnish these coats on orders originating from the administrative office, 4310 West Fort St., Detroit, Michigan.

Write headquarters at Detroit for your instructions and order blank if you want to order one or more coats.

Since Marvin Neitzel 1845

Manufacturers of Hospital and Professional Uniforms

TROY, N. Y.

NEW and IMPROVED

LaMotte Falling Drop Densiometer

(Two Models)

An important adjunct in treating cases of shock

For determining blood proteins, albumin-globulin ratio and specific gravity of body fluids. These units are produced exclusively with the co-operation of H. G. Barbour and W. F. Hamilton, and approved by them.

This outfit is now available in two models—the larger model comes complete for $65 and the smaller model at $35. Prices F.O.B. Towson, Md. Send for complete information.

LaMotte Chemical Products Co.

Dept. E Towson, Baltimore, Md.

ROUTINE URINALYSIS SIMPLIFIED

presenting two important short cuts

1. Galatest

(DRY REAGENT FOR URINE SUGAR)

2. Acetone Test

(DENCO)

Acetone Test (Denco) further simplifies Routine Urine Analysis. Detects presence or absence of acetone in urine in one minute. Color reaction is identical to that found in violet ring tests. Trace of acetone turns the powder light lavender —larger amounts to dark purple. Same simple technique as in Galatest (dry reagent for urine sugar):

THE SAME SIMPLE TECHNIQUE FOR BOTH

1. A little powder. 2. A little urine.

Color reaction instantly.

A carrying case containing one vial of Acetone Test (Denco) and one vial of Galatest is now available for the medical bag or for the diabetic patient. The case contains a medicine dropper and a Galatest color chart. Write for descriptive literature.

"Accepted for advertising in the Journal of the American Medical Association"

THE DENVER CHEMICAL MFG. COMPANY

163 Varick Street, New York, N. Y.

THE AMERICAN JOURNAL OF MEDICAL TECHNOLOGY

INDEX TO VOLUME IX

ABSTRACTS, *29*, *60*, 96, 134, 176, 208.

Acetone In Urine, The Detection of, Phyllis Stanley, M.A., M.T., 16.

Anemia, Pernicious, Steven O. Schwartz, M.D., 192.

Antigens, Spirechaetal, In the Serum Diagnosis of Syphilis, John A. Kolmer, M.D., 38.

ARENS, SISTER M. ALCUIN, O.S.B., M.T., R.N., M.S., 173.

BLOOD Lost With Menstruation Correlated With The Individual's Blood Volume, Sister M. Alcuin Arens, O.S.B., B.S., M.T., R.N., M.S., 173.

Book Reviews, *66*, 103, 139, 185, 215.

CARTER, BETTINA B., 13.

DE SHAZO, T., 75.

DOWNER, ESTELLE MARION, B.S., 155.

DREISBACH, COL. ALBERT R., 161.

EDITORIAL, 94.

FEVER, Relapsing, Triatoma Heidemanni As A Possible Vector of, T. DeShazo, 75.

FRAZER, JOHN, M.T. (ASCP), 199

HEALTH Work, Inter-American Cooperation In, Col. Albert R. Dreisbach, 161.

INDEX, Modernizing Color and Volume, Cecelia M. Kortuem, R.N., M.T., 1.

Infantile Paralysis, Kenny Method of Treatment for, 23.

JACOBS, HENRY M., M.D., 57.

JARDINE, EVELYN N., M.T., 122.

KAHN Test, A Device for Reading the, Hinton F. Miller, 46.

Kahn Tests, Standard, Two Thousand A Day, Bettina B. Carter, 13.

KOLMER, JOHN A., M.D., 38.

KORTUEM, CECELIA M., R.N., M.T., 88, 1.

LABORATORY Economy, Cecelia M. Kortuem, M.T., 88.

Laboratory Training School Personnel, Evelyn N. Jardine M.T., 122.

MALARIA, Laboratory Procedures In the Diagnosis of, Henry M. Jacobs, M.D., 57.

MAZZINI, L. Y., 82.

Meeting of the Board of Registry with Advisory Committee of Medical Technologists, June, 1943, 202.

MILLER, HINTON F., 46.

Mononuclear Cells, Morphological Differences in, Estelle M. Downer, B.S., 155.

NEWS and Announcements, 35, 68, 105, 141, 186, 217.

SCHWARTZ, STEVEN O., M.D., 192.

SCOTT, JOSEPH M., M.T. (ASCP), 49.

Stains, Improvements In Laboratory, John Frazer, M.T., 199.

STANLEY, PHYLLIS, M.A., M.T., 16.

SUESSENGUTH, HAZEL, M.T., A.B., 114.

Syphilis, Serodiagnosis of, The Mazzini Microscopic Flocculation Test for the, L. Y. Mazzini, 82.

Syphilis, Standardization of the Slide Tests for, Hazel Suessenguth, M.T., A.B., 114.

TUBERCLE Bacilli, Methods for Demonstrating, In Sputum and Other Materials, Joseph M. Scott, M.T 49.